Cover Letter:

Please address the following questions:

- Your reasons for selecting a particular research project at the UTokyo Amgen Scholars Program, and what you hope to gain from this experience.

- How you are technically qualified for the particular research project that you have selected, briefly highlighting your skills and experience when they are specifically required by the relevant faculty member, or when they appear to be helpful to conduct particular research that you selected.

- One of the main purposes of the program is to provide practical research experience at a top-level research environment to students attending institutes that are not able to provide top-level facilities. Based on this, please also describe the current research environment at your university/college if you consider it necessary.

(Max. 3,500 characters including spaces)

As a sophomore aspiring to be scientist, I am incredibly interested in pursuing research in the field of sleep research, circadian rhythm, and systems biology. That is why I am eager to participate in the UTokyo Amgen Scholars Program under professor Ueda R. Hiroki’s lab, where I hope to gain hands-on research experience and knowledge about this fascinating area of study.

My interest in sleep research stems from my strong desire to understand the complex interplay between the human body, the environment, and the many different factors that influence our ability to get a good night's sleep. Circadian rhythm, in particular, is a topic of immense interest to me, as it has the potential to provide valuable insights into a wide range of physiological processes and diseases.

In terms of my qualifications, I have a solid background in chemistry and biology, where I have scored highest in the class, as well as computer science, which I believe will be useful in the analysis and interpretation of data collected during the research project. Additionally, I have taken several online courses in physiology, sociology and psychology, which have provided me with a strong foundation in the biological and physiological concepts that are fundamental to sleep research. My experience as teaching assistant in chemistry and Intern at startup has provided me with strong work experience and ethics which will further aid me in this.

Despite my strong background, I recognize that there is much more for me to learn in this field, and I believe that participating in the UTokyo Amgen Scholars Program will provide me with an unparalleled opportunity to do so. Specifically, I hope to gain a deeper understanding of the biological and physiological processes that underlie sleep and circadian rhythm, as well as the various technologies and methods that are used to study these phenomena.

Finally, I would like to mention that my current university/college does not have a strong research environment in the field of sleep research and circadian rhythm. Being a small university from third world country, the laboratory runs on a small tight budget with low support. This is why I am particularly eager to participate in the UTokyo Amgen Scholars Program, as it will provide me with the opportunity to work in a top-level research environment and gain valuable hands-on experience.

In conclusion, I am deeply committed to advancing our understanding of sleep and circadian rhythm, and I believe that the Tokyo Amgen Scholars Program is the ideal venue for me to do so. I am eager to contribute my skills and knowledge to this important field of research, and I am confident that this experience will be a valuable addition to my education and career.

My grandmother was diagnosed with cancer when I was young, which drove me to learn as much as I could about the biology and heritability of cancer.

Given this interest, I joined Green Chemistry of = lab. My project centers on the. I found so and so. This suggests that the so and so. By continuing to study this field, I hope to identify the factors contributing to = and further research treatments using = approaches to help =.

Having worked in the Human computer interaction mini lab as research intern, studying and analyzing “the effects of confirmation bias on information seeking and evaluation in online environments”, I was fortunate to come across and learn a great deal about bias in human behavior at online medium. Its widespread, prevalent and often unnoticed. Researching on this, solidified my love for this field. My work in the lab included data collection, often firsthand, organizing data, rigorous analysis using statistical software and techniques, and interpreting the results to identify patterns and trends related to confirmation bias and social media impact among various other tasks. Together with these, we tried to find answer to important and intriguing questions.

Always been interested in conserving the planet and securing future.

Courses. A grade. Top of the class.

I plan to earn a PhD in Genetics and Genome Sciences with the ultimate goal of conducting cancer research in an academic or biotech setting. I want a PhD because it will train me to think more independently when designing research projects. AMGEN will help me achieve this by exposing me to more systems and computational biology experimentation than before. Projects like those conducted by Professor Lee, who works on cell signaling and the NF-kB transcription factor, allow me to continue working on cell signaling research. Furthermore, his lab will allow me to expand on my current understanding of this topic by exploring how specific transcription factors' diversity impacts a phenotype's expression,

Additionally, Professor Uttam's work on computational pathology and spatial systems biology are also of great interest to me, especially with his projects involving the identification of the likelihood of recurrence of colorectal cancer in patients and his testing of nanoscale nuclear architecture mapping. Given that I have exposure to cancer research, I am interested to see how this work fits into the larger study of cancer biology and how it is applied to aid in precision medicine. Finally, I am fascinated by Professor 's work on the genomics of memory B cells and tumor immunology because her focus on genomic sciences will allow me to understand better how the immune system responds to certain diseases and cancers. Overall, TecBio's focus on independent computational research, coupled with the many seminars and classes provided by the program, will prepare me well for my future career in computational biology.

Finally, a circumstance that I feel has been crucial to my experience in the STEM field is being an underrepresented minority in higher education. Starting college as a first-generation Latino student, I realized many of my peers from different backgrounds already had extensive exposure to the STEM field by conducting research and having mentors that are well established in STEM. However, this did not deter my passion for science. I kept up with research by reading journal articles on topics that interested me and listening to podcasts about research in biology. I continued to pursue this passion by conducting cancer research, becoming a supplemental instructor, and mentoring incoming Latino college students in STEM. Now, I am becoming the mentor I wished I had in high school to help me navigate higher education without having many people in my life to help me. Overall, these experiences inspire me to encourage other underrepresented people in higher education to continue pursuing their goals and to feel like they deserve the achievements they have garnered.

For me, there is no stranger unknown than the insanely immense and the dramatically microscopic. It is why I have been lured into the fields of astrobiology and bioengineering—where questions range in magnitude. Bridging these two fields through synthetic biology, I want to pursue a Ph.D. in bioengineering to search for life elsewhere in the universe and test how far beyond the moon we can venture.

In an effort to begin unraveling the unknown, I took advantage of the resources and opportunities in my college that my low-income Hispanic community did not have. I began understanding the universe through classes in biology, physics, chemistry, calculus, computing, and astronomy. I delved into research and was chosen to participate in the = REU program at Northwestern University, where I received training on a variety of essential lab skills and techniques. I learned to culture and plate bacteria and lyophilize. These skills and techniques allowed me to develop my own independent research project where I optimized a fast and colorimetric DNA-based biosensor for water contaminants by testing several reporter mechanisms and reaction conditions. Analysis of the efficiency of mechanisms and reaction conditions culminated in a poster symposium. I am now currently working in a synthetic biology lab at my home institution, helping to increase the recombineering efficiency in === to better its ===. In this lab, I assess the effects of the number of oligos, type of recovery media, and electroporation voltage on the efficiency of recombineering. The skills I gained during the REU program transferred well into my testing of various process parameters by allowing me to critically think about the project.

As a scientist and engineer, my research experience has pushed me to aspire to innovate solutions for the use of synthetic biology in space exploration. I wish to participate in the rigorous Amgen program at the University of Tokyo program because I want to contribute to the research that will take humanity beyond its limits. Specifically, I would like to join Professor =’s lab studying = in cells. I believe my previous research experience matches their lab well. Likewise, the Amgen program can help pave my path toward a Ph.D. in bioengineering by providing resources to form part of a scientist network. This is an opportunity for me to continue developing my skills with first-hand experience in an interdisciplinary setting. I hope being part of this program will challenge me to expand and apply my knowledge to synthetic biology projects.

Dear Admissions Committee,

I am writing to apply for the [program/school] at [university] and to express my interest in pursuing a career in biotechnology. As a computer science student, I have developed a strong foundation in programming, data analysis, and problem-solving, and I am excited to use these skills to make a positive impact in the field of biotechnology.

I became interested in biotechnology while taking a course on molecular biology in college. The course sparked my curiosity about the potential for using technology to understand and address complex biological systems, and I began to explore the intersection of computer science and biotechnology. I was particularly drawn to the potential for using computational approaches to analyze and interpret large datasets in genomics, proteomics, and other areas of biology.

I am confident that the [program/school] at [university] will provide me with the skills and experiences I need to pursue a career in biotechnology. The program's focus on [specific areas of study] aligns well with my interests and goals, and I am eager to learn from and work with the talented faculty and researchers at [university]. I believe that my background in computer science, combined with the education and training I will receive in the [program/school], will enable me to make a meaningful contribution to the field of biotechnology.

Thank you for considering my application. I look forward to the opportunity to learn more about the [program/school] and to join the [university] community.

Sincerely,

[Your Name]

Resume/CV:

Your resume/CV should include in-depth descriptions of any work experience, responsibilities or projects relevant to your field of study as well as the research topics on which you wish to work during the program.

(Max. 3,000 characters including spaces)

I am deeply interested in Chemistry and Biology, and I want to become a researcher in it. I have been a Teaching Assistant for the course UE21CH141A, "Engineering Chemistry” and successfully managed the course website and online resources, including slides and notes. I also contributed to the development and implementation of course assessments and provided individualized student support through one-on-one assistance. I was awarded First Place in the Solance 2019 Inter-Department Project Exhibition, among 400 exhibits, and I am also the co-founder and head of the largest Chemistry Club at the university, the Student Chemistry Society.

I am currently working as a Research Intern, where I am researching the topic of "The methods for the classification and treatment of waste." I have conducted extensive research on innovative waste management methods, including recycling, composting, incineration, landfilling, and waste-to-energy. My focus is on developing new methodologies for the classification and treatment of waste with the goal of reducing waste generation and improving sustainability. I am also working on public outreach to educate freshman students in the field of waste management. Additionally, I assist in research presentations to the team or collaborating organizations.

Due to my strong chemistry and mathematics knowledge, I was selected to represent India in an international water rocket competition as competing against 13 other countries in the Asian Pacific region. I worked under the guidance of the Indian Space Research Organisation (ISRO) to design and build a successful water rocket.

I have completed several online certifications in subjects such as evolutionary biology, inorganic and physical chemistry, advanced learning pedagogy, zoology and psychology.

In my extra-curricular activities, I have been a writer and reporter, publishing numerous short stories, articles, reports, and interview transcripts related to science and chemistry. I am also a contributor and lead maintainer of a research blog called Research Et Al. I have won several state and national level science quizzes as a quizzer and have participated in various quiz tournaments representing my university.

In my volunteering experiences, I have mentored and tutored over 80 students in chemistry and programming and helped plant over 100 trees across the college to build a green ecological campus. I have also participated in and led community service projects to create food banks and animal shelters.

I believe that my passion for chemistry combined with my education and hands-on experience, make me an excellent candidate for the Amgen Scholars Program at Tokyo. I am eager to contribute my skills and experience on the project of professor Ueda R. Hiroki’s “sleep research, circadian rhythm, and systems biology” to expand my knowledge and gain a deeper understanding of these important areas of study.

NUS

As a sophomore aspiring to be scientist, I am incredibly interested in pursuing research in the field of biology. That is why I am eager to participate in the NUS Amgen Scholars Program, where I hope to gain hands-on research experience and knowledge about this fascinating area of study.

I have been a Teaching Assistant for the course UE21CH141A, "Engineering Chemistry” and successfully managed the course website and online resources, including slides and notes. I also contributed to the development and implementation of course assessments and provided individualized student support through one-on-one assistance. I was awarded First Place in the Inter-Department Project Exhibition, among 400 exhibits, and I am also the co-founder and head of the largest Chemistry Club at the university, the Student Chemistry Society.

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Finally, I would like to mention that my current university/college does not have a strong research environment in the field of sleep research and circadian rhythm. Being a small university from third world country, the laboratory runs on a small tight budget with low support with lab users paying and self-funding everything including interns. This is why I am particularly eager to participate in the UTokyo Amgen Scholars Program, as it will provide me with the opportunity to work in a top-level research environment and gain valuable hands-on experience.

In conclusion, I am deeply committed to advancing our understanding of sleep and circadian rhythm, and I believe that the NUS Amgen Scholars Program is the ideal venue for me to do so. I am eager to contribute my skills and knowledge to this important field of research, and I am confident that this experience will be a valuable addition to my education and career.